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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,603	12/27/2004	Matthias Locher	CH02 0022 US	9479

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EXAMINER

MAI, LAM T

ART UNIT PAPER NUMBER

2819

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/519,603

Applicant(s)

LOCHER ET AL.

Examiner

LAM T. MAI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/27/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "as a dither signal, a signal that is available in the circuit but is **not** specifically generated for this **PURPOSE (what ? purpose)**" is not understandable.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is no drawing in the specification in order to support claim 2.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Ruha et al (USP 6426714).

Regarding claim 1, Ruha discloses in figure 1 a circuit arrangement that teaches a sigma-delta converter (10) for converting an analog input signal into a digital output signal, wherein the sigma-delta converter (10) comprises a loop filter (12) having a filter input to which an input line for the input signal is connected and having a filter output, a quantizer (14) having a quantizer input that is connected to the filter output and having a quantizer output to which an output line (K) for the output signal is connected, and a feedback loop (17) to feed the output signal back to the input signal, and the circuit arrangement has a dither signal line that is suitable for additionally applying to the quantizer input, as a dither signal (see figure 1, col. 4-5).

Regarding claim 6, Ruha teaches ADC (18) in the feedback (see figure 1, col. 4-5).

Regarding claim 5, Ruha teaches comparator in the quantizer. (see col. 10, line 38).

Regarding claim 4, Ruha teaches noise shaping in the dither-sigma line.

Regarding claim 3, Ruha teaches DAC (18) and dither signal connects to quantizer input of the first sigma delta converter.

Regarding claim 2, Ruha teaches second line output and dither signal connect to quantizer input of the sigma delta converter.

Regarding claim 7, Ruha discloses in figure 1 a circuit arrangement that teaches a sigma-delta converter (10) for converting an analog input signal into a digital output signal, wherein the sigma-delta converter (10) comprises a loop filter (12) having a filter input to which an input line for the input signal is connected and having a filter output, a quantizer (14) having a quantizer input that is connected to the filter output and having a quantizer output to which an output line (K) for the output signal is connected, and a feedback loop (17) to feed the output signal back to the input signal, and the circuit arrangement has a dither signal line that is suitable for additionally applying to the quantizer input, as a dither signal (see figure 1, col. 4-5).

Allowable Subject Matter

Claims 8-10 are objected to as being dependent upon a rejected base claim, but they would be considered allowable if they are rewritten in independent form including all of the limitations of the base claim and any intervening claims. Features of objected claims are not suggest or taught in the prior art.

Cited References

All the cited references relate to the instant application matter.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM T. MAI whose telephone number is (571)272-1807. The examiner can normally be reached on 5:30 am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pascal J. Robert can be reached on (571) 272-1769. The fax phone


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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lam T. Mai
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PEGUY JEANPIERRE
PRIMARY EXAMINER